

2020 Census Program Management Review

2014 Census Test Results

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Outline

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Scope of 2014 Census Test

➤ High-Level Test Objectives

- Test contact alternatives for both the self response and the nonresponse followup enumeration to determine the most efficient and cost effective way to get data from non-responding households.
- Test the use of administrative records to determine the quality of the records in conjunction with actual field enumeration while using predetermined contact strategies.
- Learn about the timing on how people come to the Internet so that we can optimize systems and procedures for the future.
- Test the enumeration instrument prototype in the field to determine its impact on completing field enumeration and to determine what are the application and operational issues that need to be addressed in future testing.
- Test adaptive design approaches to set priority for cases, to either use telephone or personal visits in specified order, and to train enumerators.

Self Response Results

- Objectives
- Contact Strategy Panels
- Non-ID
- Questionnaire Content
- Lessons Learned/Next Steps

Self Response Objectives

Optimizing Self Response (OSR)

- **“Notify Me”**
 - Postcard solicitation
 - Respondents select their preferred mode for future invitations and reminders – email or text message
- **Non-ID Internet response**
 - No user ID provided in mail materials
 - Test ability to process and match respondent-provided address information (not real-time)
- **Email invitation**
 - Test use of email as initial invitation to respond
 - Evaluate use of pre-notice (letter and automated voice) to introduce and legitimize email contacts
- **Mail Internet invitation**
 - “Internet Push” strategy: letter → postcard → postcard → questionnaire
 - Test use of email and automated voice reminders

Optimizing Self Response (OSR)

➤ Major Findings:

- Internet-push is successful strategy for generating Internet response
 - 50.6% of total response was via Internet
 - 76.8% self-response was via Internet
- Low participation in “Notify Me”
 - 3% of invitees participated
- Email not an effective replacement for postal mail
 - Over half of the emails were not delivered - “bounced back”
 - Response rates 10% lower than control
- Automated Voice Invitations (AVI) show no impact on response
 - When used as pre-notice or as a reminder

Optimizing Self Response (OSR)

➤ Lessons Learned & Next Steps:

- Continue with Internet-push strategy
 - 2015 National Content Test (NCT) will continue experimenting with timing, order, format, and number of contacts
- No use of email as primary contact method
 - 2015 NCT will test using email as reminders, supplementing postcard reminders
- “Notify Me” needs additional promotion
 - 2015 Optimizing Self Response (OSR) Test will use advertising and outreach to promote and educate respondents on “Notify Me”

Non-ID Response

➤ Major Findings:

- Lower Internet response for Non-ID Panel
 - 40.6% for Non-ID panel vs. 46.3% for ID panel
- Lower overall response for Non-ID
 - 58.9% for Non-ID panel vs. 61.4% for ID panel
- Response rates are impacted by the ability to match
 - About 5% of Non-ID cases weren't matched
 - All unmatched cases treated as nonrespondents
- Address collection in the Internet instrument appears to be successful
 - Higher match rates than 2010 and fewer incomplete records
- Address supplementation from administrative records isn't necessary very often, but increases matching rates by 50% when used

Non-ID Response

➤ Lessons Learned & Next Steps:

- We will need to promote the availability of Non-ID response
 - The 2015 OSR Test will include advertising and outreach to promote the Non-ID response option
- The success of Non-ID Response depends on accurate matching
 - The 2015 OSR Test will test real-time Non-ID processing to increase match rates
- Non-ID processing needs further testing on a more diverse set of addresses
 - The advertising and outreach in the 2015 OSR Test will generate non-sample addresses for more robust testing

Questionnaire Content

➤ Major Findings

- Use of combined race/Hispanic origin question, compared to separate questions, showed no difference in distribution for most groups
- Soliciting write-in race and origin details on a separate screen from the major group checkboxes, compared to on the same screen, results in more detailed reporting
- Detailed reporting for major race and Hispanic origin groups varied by question version – combined question saw higher percentages for White, Black, and Hispanic, and lower for Asian and NHOPI
- Use of the new relationship question, which includes categories for same-sex and opposite sex spouse and partners, showed no difference in distributions for each category, though the paper form had slightly higher item nonresponse for the new version

Questionnaire Content

- This site test was not focused on evaluating content as a main objective

- **Next Steps:**
 - The 2015 National Content Test will continue testing race/Hispanic origin, relationship, and other content on a nationally representative sample
 - Continue testing strategies to optimize detail race/origin reporting
 - Findings for the relationship question need to be validated with a national sample

Nonresponse Followup (NRFU) Results

- **2014 Census Test Design – Brief Summary**
- **Results and Lessons Learned/Next Steps**
 - Administrative Records Removal and Comparison
 - Interview Panel Comparisons
 - COMPASS (NRFU) Instrument

2014 NRFU Census Test Design

- Initial NRFU Workload established on 7/29
 - 46,247 addresses
 - All non-responding addresses in the area were included (no sub-sample)
- NRFU conducted August 14, 2014 to September 25, 2014

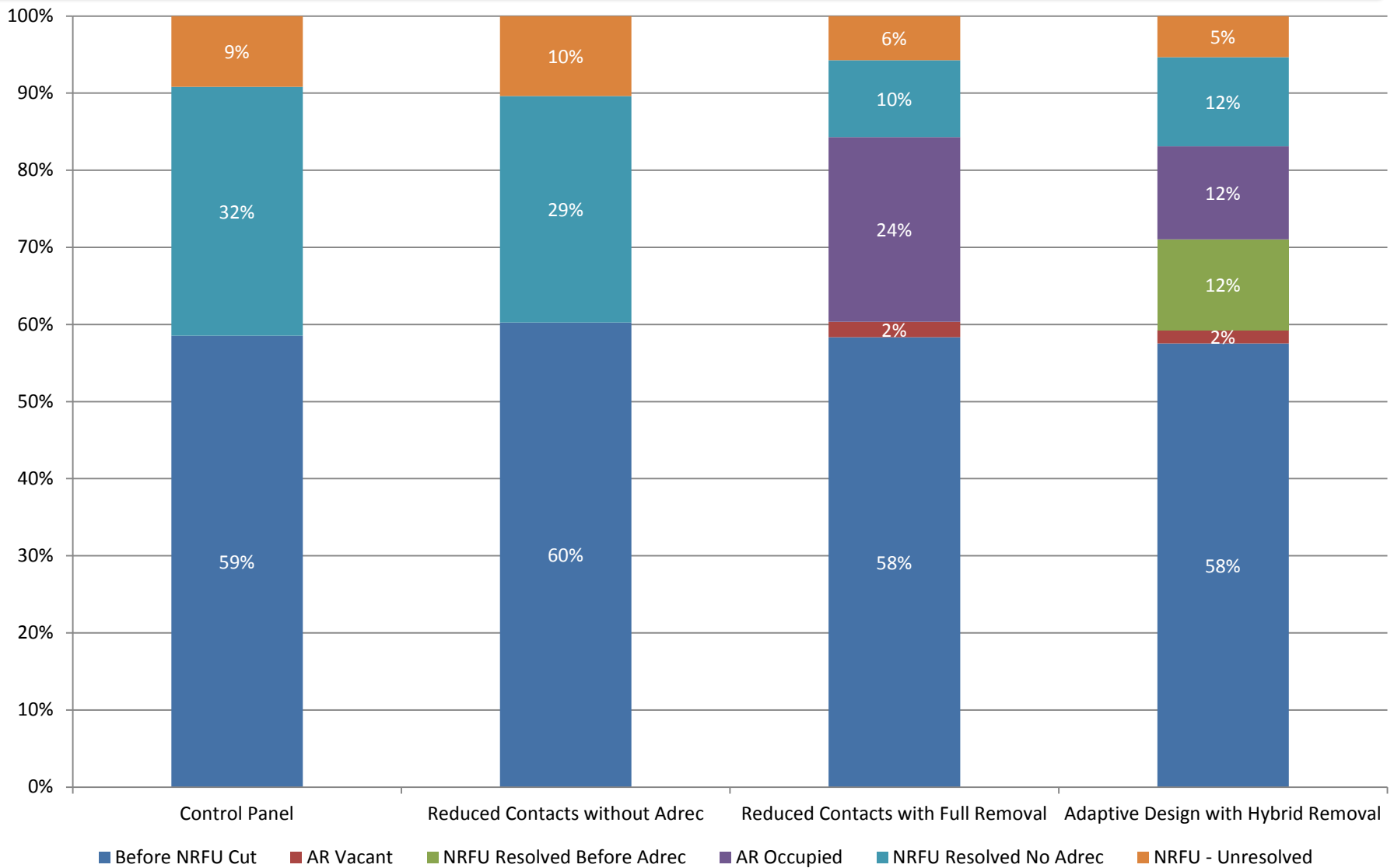
NRFU Panels

- Control Panel
- Reduced Contact Strategy, no Administrative Records use
- Reduced Contact Strategy with Administrative Records
- Adaptive Design with Administrative Records

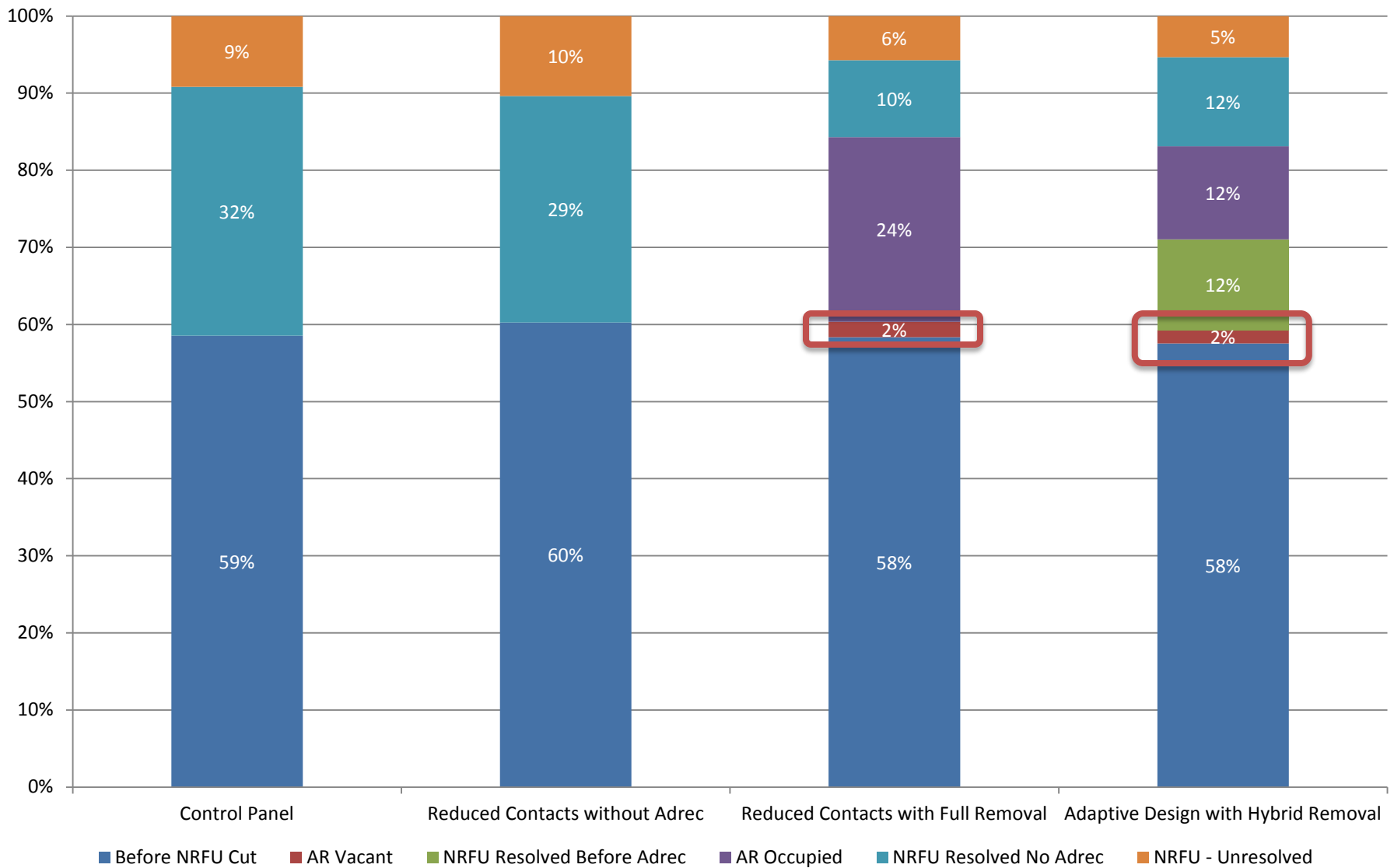
Administrative Records Sources

- United States Postal Service Undeliverable-As-Addressed (June 23 to July 6)
- 2012 and 2013 CMS Medicare Database (August 2012 & 2013)
- TY 2013 Internal Revenue Service Individual Tax Returns (July 2014)
- Social Security Administration Number Identification (Numident) File

Overall Results By Panel

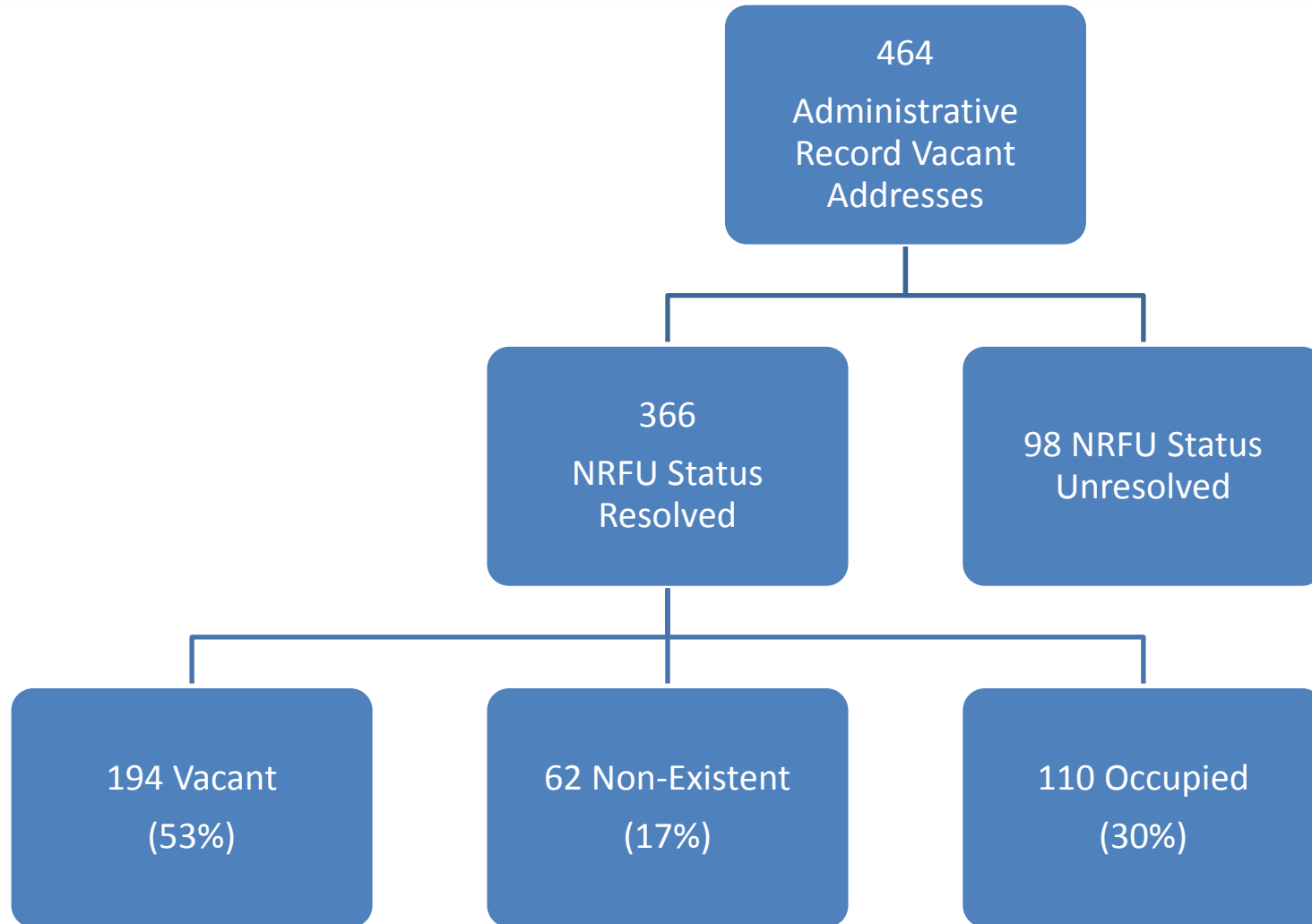


Administrative Record Vacant Removal



Administrative Record Vacant

Comparison to Control Panel Interviews



2014 Administrative Record Vacant and NRFU Occupied Differences

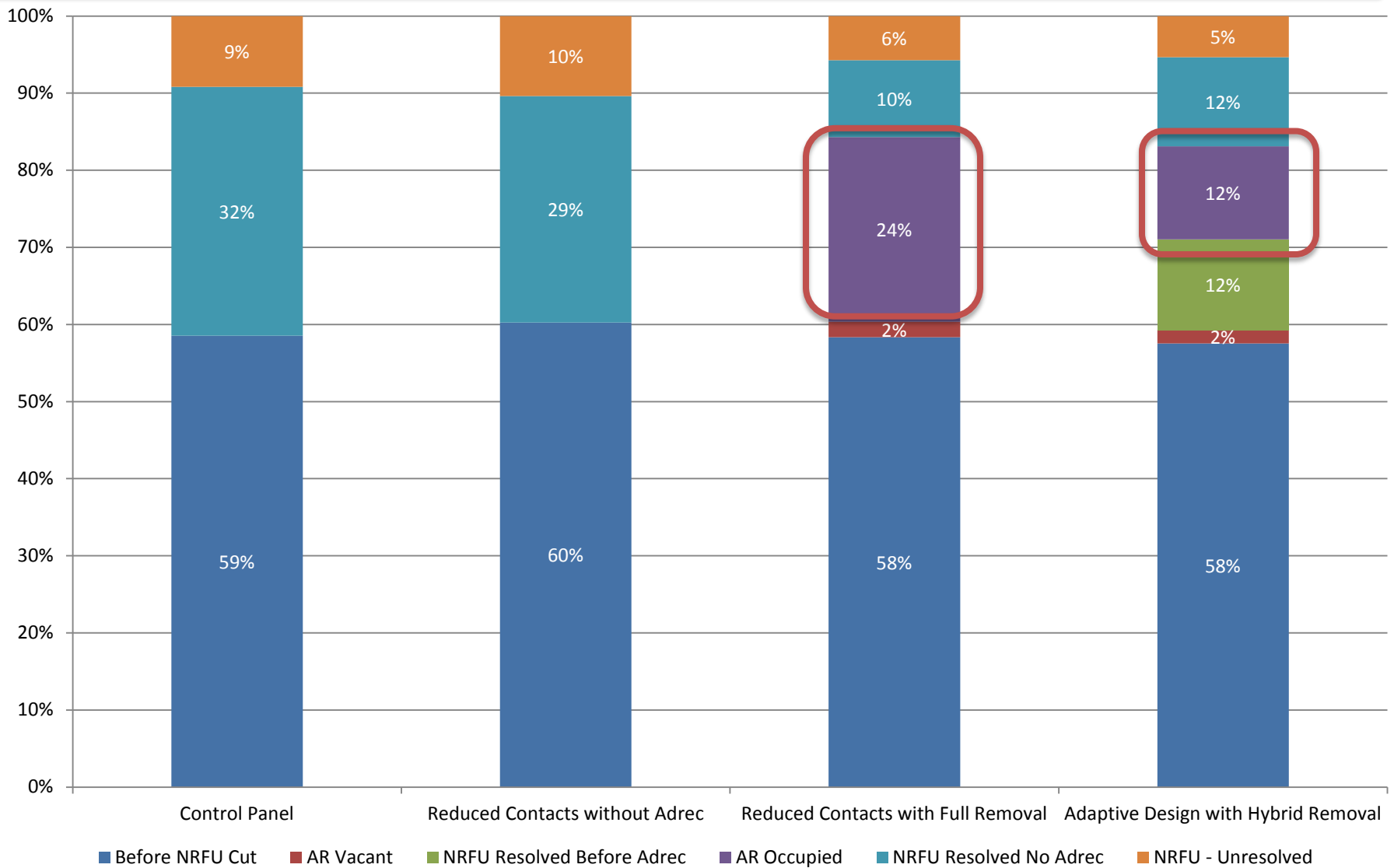
Further examine the 110 NRFU occupied cases in control panel

51 had the following:

- 6 field notes indicate vacant
- 8 field notes about moving around July 1st
- 4 field notes indicating possible delete
- 11 interview could not determine population count
- 14 complete by Internet or TQA with no self-response vacant option
- 8 building access issues

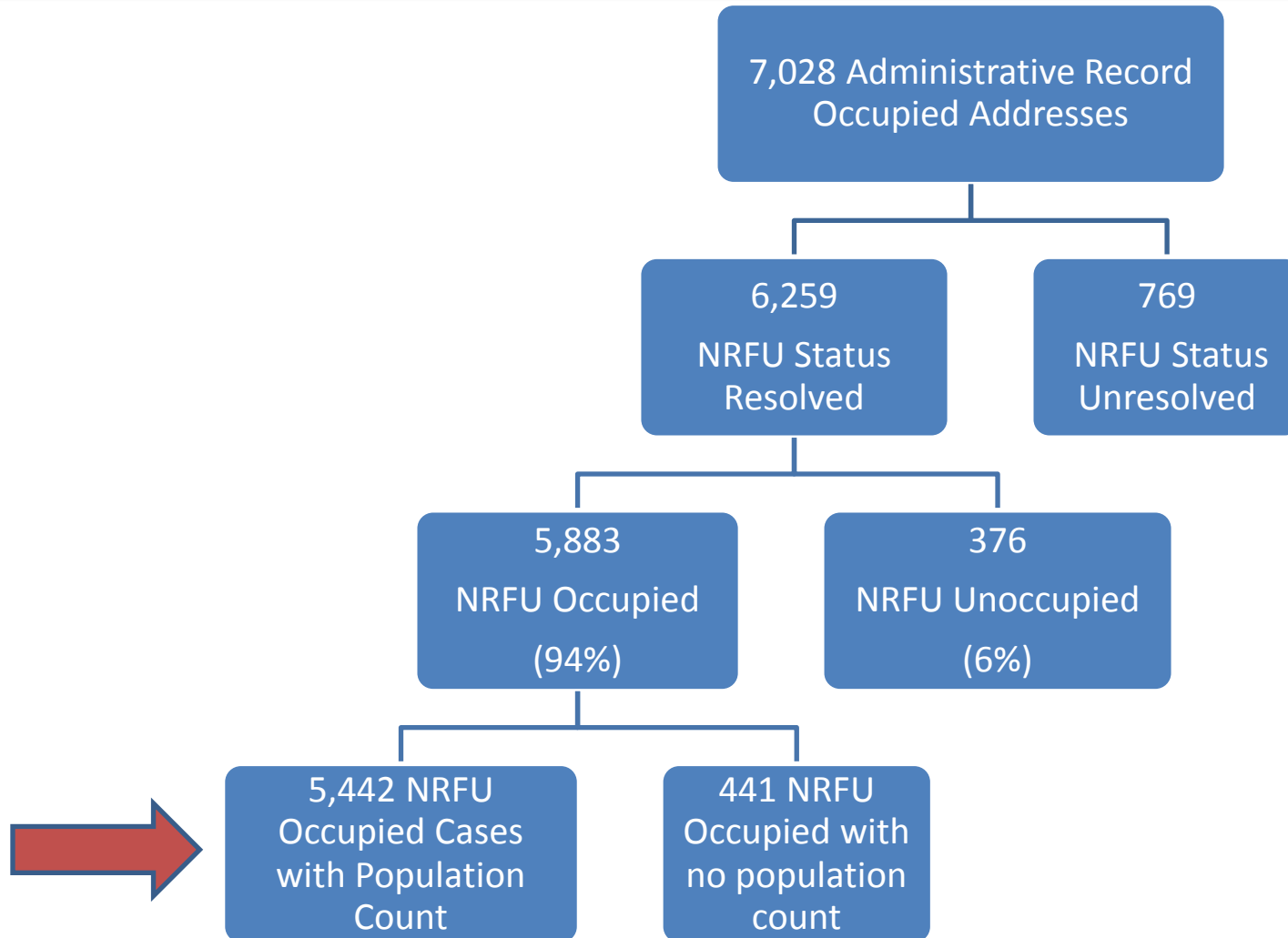
23 of the 110 had USPS National Change of Address at address within 2 months of Census Day.

Administrative Record Occupied Removal



Administrative Record Occupied

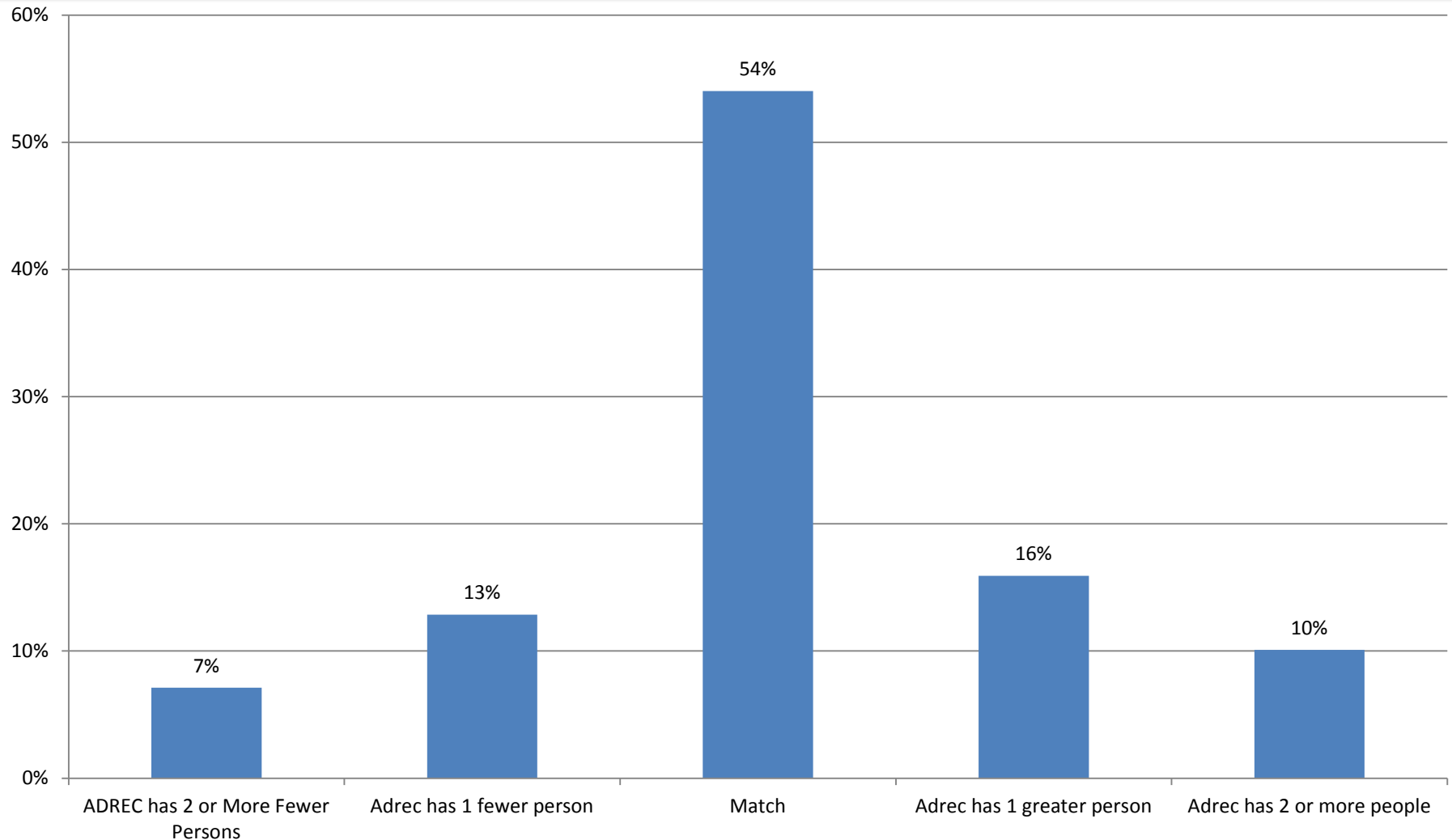
Comparison to Control Panel Interviews





Administrative Record Occupied

Count Comparison to Control Panel Interviews





Administrative Record Occupied

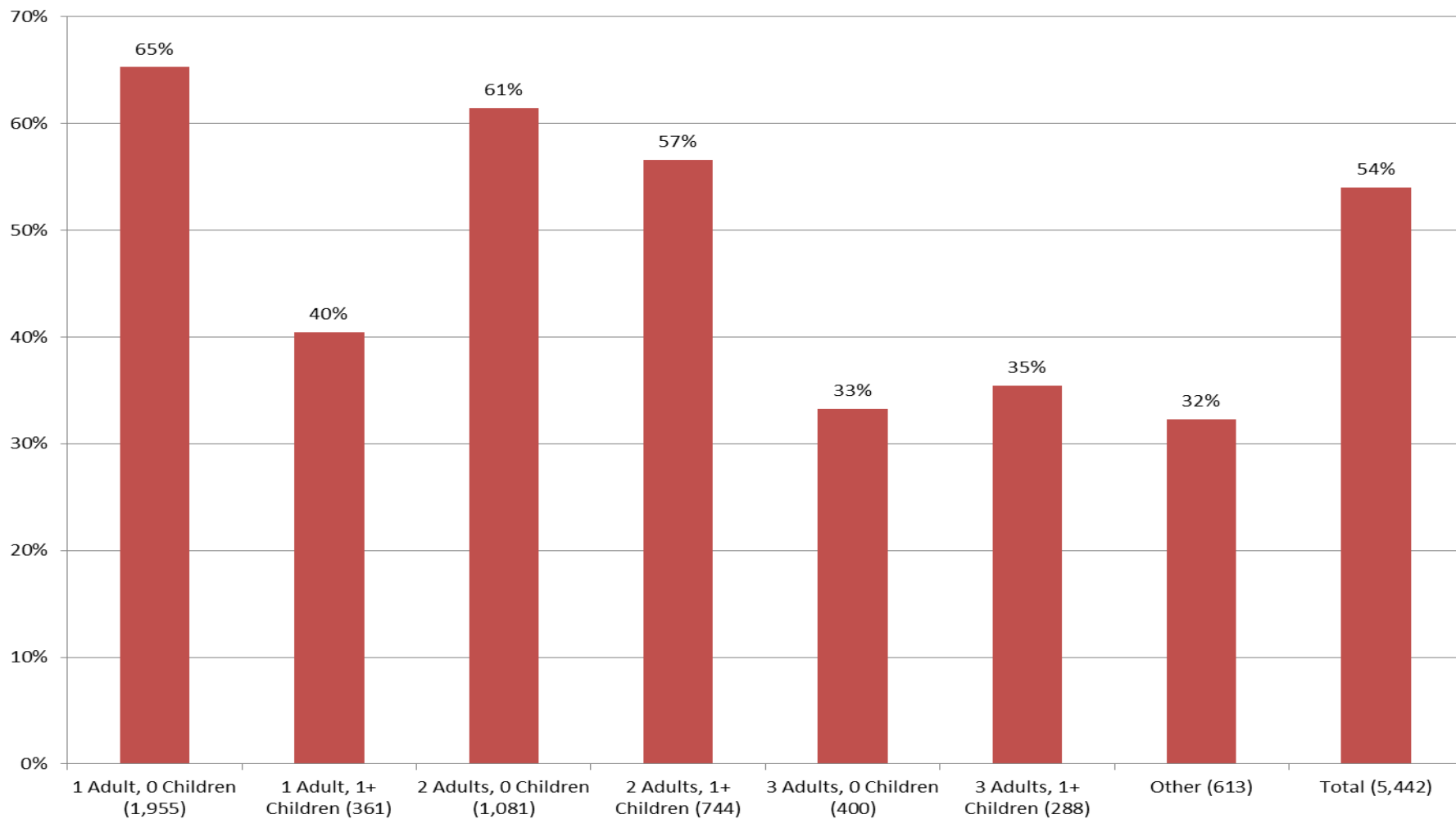
Comparison to Control Panel

- Did the match rates differ by household composition of the Administrative Record Household?
- Using age of each administrative record person in the unit, we classified each household into one of 7 categories:
 - One Adult (18+) with no children (<18)
 - One Adult (18+) with 1+ children (<18)
 - Two adults (18+) with no children (<18)
 - Two adults (18+) with 1+ children (<18)
 - Three adults (18+) with no children (<18)
 - Three adults (18+) with 1+ children (<18)
 - Others

Administrative Record Occupied

Comparison to Control panel

Count Match by Administrative Record Composition Category



Lessons Learned

Administrative Records Vacant

- Developing business-rules and models to address desired tolerance of difference between Administrative Records vacant and NRFU Occupied

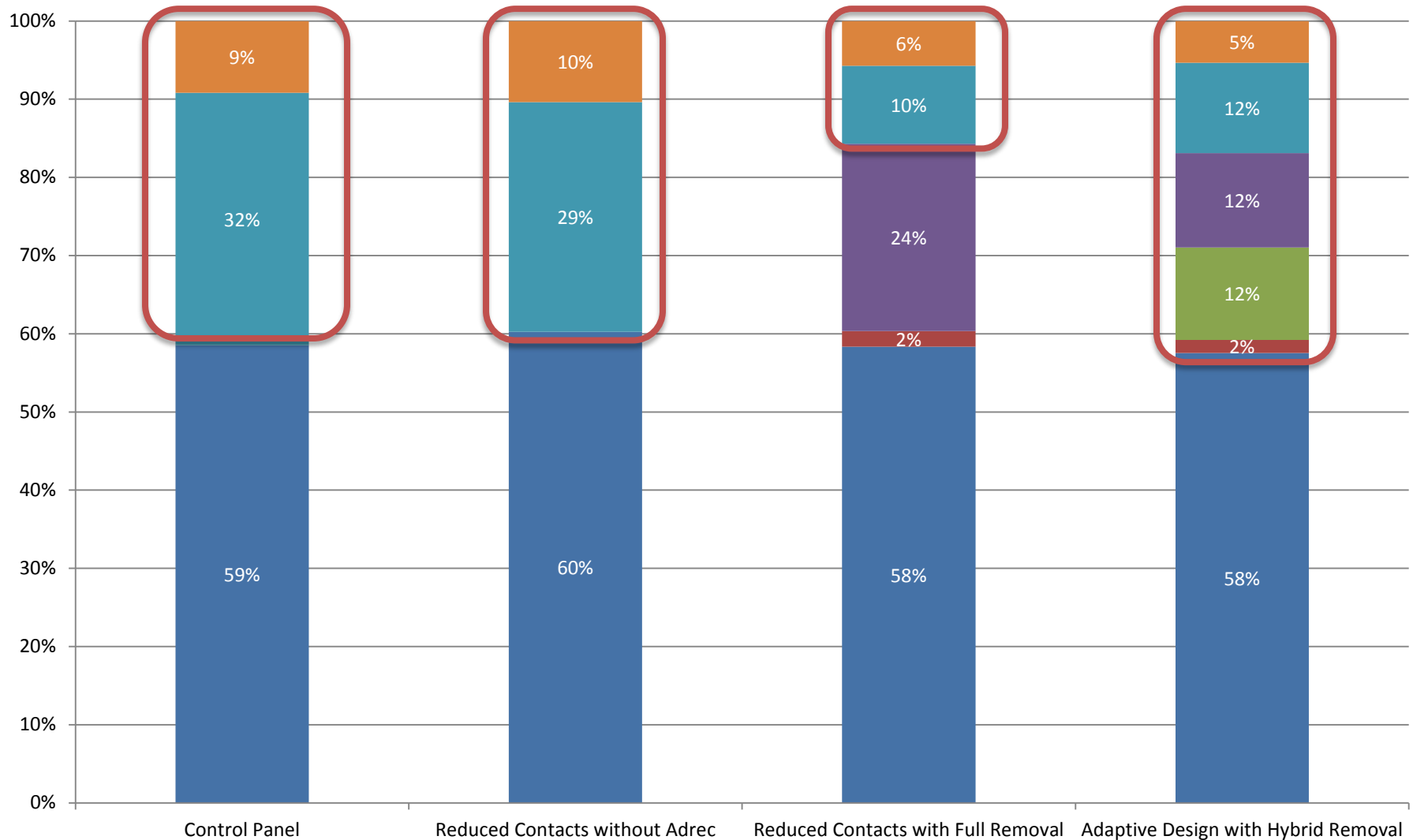
Administrative Record Occupied

- Utilize household compositions in our rule-based and modeling approaches
- Continue to examine categories to understand especially 1 adult with children present

Interview Panel Comparisons

What is the impact on CAPI Interviews of various contact strategies and AR-use?

Interview Panel Comparisons



■ Before NRFU Cut ■ AR Vacant ■ NRFU Resolved Before Adrec ■ AR Occupied ■ NRFU Resolved No Adrec ■ NRFU - Unresolved

Average Number of Attempts

Panel	Average # of Attempts
Control	4.0
Reduced Contact Strategy without AR	2.9
Reduced Contact Strategy with Full AR Removal	3.0
Adaptive Design with Hybrid AR Removal	1.7

- There is no significant difference between the Reduced Contact Strategy panels
- Reducing the maximum number of attempts yields overall lower averages (as expected)
- Averages attempts are higher than expected
- The 2010 Census had an average of the following contact attempts/HU:
 - DC had 2.7
 - Montgomery County had 2.6

Completed Interviews

Panel	Completion Rate (Completed Cases / Total Cases)
Control	79.2%
Reduced Contact Strategy without AR	74.8%
Reduced Contact Strategy with Full AR Removal	86.7%
Adaptive Design with Hybrid AR Removal	85.6%

- Completed cases includes CAPI and CATI completed interviews, self-response received after the NRFU universe was established, as well as cases with sufficient Administrative Records data

CAPI Proxy Rate

Panel	CAPI Proxy Rate
Control	27.8%
Reduced Contact Strategy without AR	29.0%
Reduced Contact Strategy with Full AR Removal	40.2%
Adaptive Design with Hybrid AR Removal	18.9%

- There is no statistical difference between the Control and RCS w/o AR
- A reduction in the number of attempts does not impact the proxy rate
- Using AR to remove occupied cases increases the proxy rate for the remaining cases
- The strategy to not allow proxies for a portion of units in the AD panel likely reduced the proxy rate for the AD panel

HU Status Distribution

Panel	Occupied	Vacant	Delete	Unresolved
Control	54.9	11.4	3.6	30.1
Reduced Contact Strategy without AR	48.9	11.6	3.1	36.5
Reduced Contact Strategy with Full AR Removal	75.5	10.0	0.9	13.7
Adaptive Design with Hybrid AR Removal	68.3	11.5	2.3	17.9

- The unresolved HU status is being driven by noninterviews, which were higher in the 2014 Census Test than in the 2010 Census.
- The use of Administrative Records reduces the unresolved HU Status.
- Vacancy rates are not significantly different between panels.

CATI (AD Panel only)

- CATI interviews were conducted for the first two weeks of NRFU (8/14 – 8/28) for the Adaptive Design panel.
- 8,859 cases sent to CATI
 - 5.2% complete interviews
 - 24.8% late returns
 - 6.7% refusal
 - 3.4% partial interview
 - 0.3% language barrier
 - 59.6% no contact with anyone

CATI (AD Panel Only)

- 21,416 phone numbers sent to CATI
 - 2.2% Complete Interview
 - 5.9% Non-Interview
 - 10.5% Bad number
 - 46.5% Attempted but no contact with anyone
 - 34.9% Untried
- Lesson Learned: Need better phone numbers and/or interviewing methods in order for CATI to be effective

Self Response During NRFU

- 4,385 self responses received starting on 8/14
 - 3,974 after at least one attempt
 - 31.1% received same day as the NRFU attempt
 - 62.9% received within 2 days of the NRFU attempt
 - 61.1% responded via Internet, 15.7% via TQA, 23.2% via paper
- Self-Response Lessons Learned
 - Need to assess optimal wait time between visits to allow for self-response
 - Research ways to identify potential self-responders during NRFU

COMPASS Feedback from Debriefings and Observations

- Locked Buildings and Gated Communities
 - Interviewers recorded attempts for a unit (or all units in the building sometimes) even when they couldn't reach it
 - There were many instances of several interviewers trying to gain access or contact the same building managers
- Vacant and Deleted Units
 - Multiple attempts were required before attempting a proxy/resolving the case due to contact rules and instrument options
- Telephone Attempts
 - If multiple phone numbers were available, interviewers were dispositioning the case after dialing one number vs all of the numbers.
 - Moving between the COMPASS and the device phone was not smooth and sometimes required interviewers to write down numbers to dial

Lessons Learned

- Locked Buildings and Gated Communities
 - Conduct more training on multi-units and access issues
 - Clarify to interviewers that attempts should only be recorded when the HU is reached
 - If a locked building is encountered, interviewers are to notify their supervisor immediately
- Vacant and Deleted Units
 - Create options in COMPASS to allow interviewers to disposition cases prior to making all attempts in some cases
- Continue to make improvements to the COMPASS instrument to address special situations



Please send questions to:

census.2020.program.management.review@census.gov

Backup Slides

Schedule Key Activities

Activity	Start Date	Finish Date
Finalize Field Test Site Selection	--	09/13/13A
Open LCO	04/17/14 A	06/03/14 A
Conduct Pre-Registration Post Card Invitation	06/05/14 A	--
Conduct Contact 1: <ul style="list-style-type: none"> – Mail Letter and Instructions – Mail Post Card and Instructions – Send Email and Instructions 	06/23/14 A	--
Census Day	07/01/14 A	--
Conduct contact 2: Send Post Card Reminder of Email Reminder	07/01/14 A	--
Conduct Contact 3: Send Post Card Reminder	07/08/14 A	--
Conduct Contact 4: Mail Questionnaire to Nonresponders	07/16/14 A	--
Cut for Nonresponse Followup	07/21/14 A	--
Conduct Contact 5: Automated Voice Invitation Reminder	07/21/14 A	--
Conduct Enumerator Training	08/11/14 A	08/15/14 A
Conduct Nonreponse Followup	08/14/14 A	09/22/14 A

Early Self Response Results

Contact Strategy Panels

	Pre-Notice	Contact 1	Contact 2	Contact 3 *	Contact 4 *	Contact 5 *
Internet Push (Control)		Letter	Postcard	Postcard	Mail questionnaire	
Notify Me	Postcard	Email/text	Email/text	Email/text	Mail questionnaire	
Non-ID Internet Push		Letter (No ID)	Postcard (No ID)	Postcard (No ID)	Mail questionnaire	
Cold Contact Email		Email	Email	Postcard	Mail questionnaire	
Email Invite w/ Letter Prenotice	Letter	Email	Email	Postcard	Mail questionnaire	
Email Invite w/ AVI Prenotice	AVI	Email	Email	Postcard	Mail questionnaire	
Internet Push w/ Email Reminder		Letter	Email	Postcard	Mail questionnaire	
Internet Push w/ AVI as 3 rd Reminder		Letter	Postcard	Postcard	Mail questionnaire	AVI
* Targeted only to nonrespondents AVI = Automated Voice Invitation Note: households in Notify Me panel that did not sign-up for email/text received Internet Push materials by mail.						

Control Panel

- **Similar approach to 2010 NRFU**
 - First attempt must be a personal visit
 - Up to 3 personal visits may be attempted
 - Up to 3 telephone calls may be attempted
 - Proxies allowed
 - Enumerators determine the best approach to use to obtain a completed interview

- **There are two major differences from the 2010 Census**
 - Enumerators used an automated instrument instead of paper questionnaire
 - Enumerators were provided telephone numbers (if available from administrative records) for their cases

Reduced Contact Strategy, No AR

- **3 Contact Attempts (PV, T, PV/Proxy)**
 - First attempt was in person (PV)
 - Next attempt was by telephone (T), if a number was available
 - Last attempt was in person (PV/Proxy)
 - If last attempt was not successful, up to 3 proxy attempts allowed
 - Automated instrument removed the case from the workload, before the next day, after the PV/Proxy contact attempt was made
 - Notice of Visit forms instruct Respondent to go online or call TQA

Reduced Contact Strategy with AR

- **Unoccupied and Occupied Cases Identified using Administrative Records (AR) Removed Prior to NRFU**
- **3 Contact Attempts (PV, T, PV/Proxy)**
 - Same Reduced Contact Strategy as Panel 2 (3 visits: PV, T, PV/Proxy)

Adaptive Design with AR

- **Unoccupied Cases Identified using AR Removed Prior to NRFU**
- **First contact attempt by CATI via centralized call centers**
- **Variable number of contacts**
 - **If AR available for an occupied unit**
 - 1 PV attempt, No Proxy allowed
 - Case removed from the workload after 1 attempt
 - **If AR not available**
 - 1 PV/Proxy for 50% of block groups with highest 2010 return rates in each strata
 - 3 PV/Proxy for 50% of block groups with lowest 2010 return rates in each strata
- **Priority Cases**
 - 7 high priority cases assigned per day to each enumerator
 - Priority based on either geography or relative importance

Administrative Records

Determination of Occupancy Status

#	Occupancy Determination Based on IRS or Medicare	Total Administrative Records Persons	Applicable USPS UAA Reasons Assigned to Unit?	Final Administrative Record Outcome
1	Yes	6 or fewer	No	Occupied
2	No	n/a	Yes	Vacant
3	Yes	n/a	Yes	Could Not Determine
4	No	n/a	No	Could Not Determine

Applicable UAA reasons: Attempted-Not known, Deceased, In Dispute, Illegible, Refuse, Unclaimed, Unable to Forward or Vacant.

COMPASS Instrument

- Automated interview on an iPhone
- Provided case list (assignment) and maps
- Instructed enumerators what mode to attempt for the case
- Collected additional paradata not available in 2010